Appl. No. 10/593,326

Amdt. dated December 11, 2007

Reply to Office action of Sept. 11, 2007

**AMENDMENTS TO THE CLAIMS** 

This listing of claims will replace all prior versions, and listings, of claims in the

application:

**Listing of Claims:** 

Claims 1-6. (Canceled)

7. (Currently amended) The high-pressure pump as defined by claim [[6]] 18, wherein the

region of the housing part further bore in the cylinder head in which the closing spring is

disposed is tightly closed off from the outside of the housing part cylinder head by means

of a closure element; and wherein the fuel inlet discharges into this region the further bore.

8. (Currently amended) The high-pressure pump as defined by claim [[2]] 7, further

comprising a free flow cross section between the shaft of the valve member and the smaller-

diameter bore, through which free flow cross section fuel flows out of the region into the

pump work chamber in the open state of the valve member.

9. (Currently amended) The high-pressure pump as defined by claim 7, wherein the small

diameter bore has a <u>first</u> portion discharging into the pump work chamber, between which

portion and the shaft of the valve member a flow cross section is uncovered; wherein the

small diameter smaller-diameter bore has a second portion discharging into the region

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further bore, in which portion the shaft of the valve member is guided displaceably; and that

the first portion of the bore communicates with the region further bore.

10. (Currently amended) The high-pressure pump as defined by claim [[6]] 18, wherein

the sealing face of the valve member is embodied as convex toward the valve seat, and in

particular is embodied as at least approximately in the form of a portion of a sphere.

11. (Currently amended) The high-pressure pump as defined by claim 7, wherein the

sealing face of the valve member is embodied as convex toward the valve seat, and in

particular is embodied as at least approximately in the form of a portion of a sphere.

12. (Currently amended) The high-pressure pump as defined by claim 8, wherein the

sealing face of the valve member is embodied as convex toward the valve seat, and in

particular is embodied as at least approximately in the form of a portion of a sphere.

13. (Currently amended) The high-pressure pump as defined by claim 9, wherein the

sealing face of the valve member is embodied as convex toward the valve seat, and in

particular is embodied as at least approximately in the form of a portion of a sphere.

14. (New) The high-pressure pump as defined by claim 18, wherein the sealing face of the

valve member is embodied as at least approximately in the form of a portion of a sphere.

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15. (New) The high-pressure pump as defined by claim 7, wherein the sealing face of the

valve member is embodied as at least approximately in the form of a portion of a sphere.

16. (New) The high-pressure pump as defined by claim 8, wherein the sealing face of the

valve member is embodied as at least approximately in the form of a portion of a sphere.

17. (New) The high-pressure pump as defined by claim 9, wherein the sealing face of the

valve member is embodied as at least approximately in the form of a portion of a sphere.

18. (New) A high-pressure pump for a fuel injection system of an internal combustion

engine, the high-pressure pump having a multi-part pump housing comprising:

a basic body portion adapted to rotatably support a drive shaft and a cylinder head

connected to the basic body portion,

a cylinder bore formed in the cylinder head,

a pump piston guided displaceably in the cylinder bore, one end of the pump piston

defining a pump work chamber in the cylinder bore, into which fuel is aspirated via an inlet

valve upon an intake stroke of the pump piston and from which fuel is positively displaced

upon a pumping stroke of the pump piston,

the inlet valve having a pistonlike valve member with a head having a sealing face

which cooperates with a valve seat for controlling the communication of the pump work

chamber with a fuel inlet, the valve member being urged in a closing direction by a closing

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spring and by pressure prevailing in the pump work chamber and in an opening direction by pressure prevailing in the fuel inlet,

the head of the valve member being disposed in the pump work chamber and protruding from the pump work chamber with a shaft adjoining the head, the closing spring being disposed outside the pump work chamber and engaging the shaft,

the valve seat being formed on the cylinder head at a transition from the cylinder bore to an adjoining, smaller-diameter bore formed in the cylinder head;

wherein the valve member, with its shaft, protrudes through the smaller-diameter bore into a further bore in the cylinder head remote from the pump work chamber; and wherein the closing spring is disposed in this further bore in the cylinder head.